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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SALTARELLI, DOMINIC D	
ART UNIT	**PAPER NUMBER**
2611	

DATE MAILED: 07/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/994,482	LI ET AL.	
	Examiner	Art Unit	
	Dominic D. Saltarelli	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed April 29, 2005 have been fully considered but they are not persuasive.

2. Applicant argues that Graber does not provide motivation to combine with a system of distributed elements capable of standard unified data services, and particularly voice (page 12, 1st paragraph).

3. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Graber teaches converting video signal streams of various different formats into digital data, and it is well known to those of ordinary skill in the art that digital data is superior to analog signals in terms of signal strength, ease of manipulation, flexibility, and such. Simply because the Graber reference takes place in a particular video distribution environment does not impact the desirability of applying analog to digital conversion taught by Graber to any video distribution environment.

4. Applicant argues that Turner discloses packet switching in a network with circuit properties which operates one layer below the disclosed invention (page 12, 2nd paragraph).

5. In response, Turner actually teaches the use of level 2 and level 3 switching as claimed, as shown below regarding the amended independent claims.

6. Applicant argues that Read provides no disclosure for modulating and demodulating RF frequency operating signals for use in a network system such as disclosed by Turner (page 12, 3rd paragraph).

7. In response, Read discloses converting signals from a public switched telephone network into VoIP packets by using gateway 122, shown in fig. 1 as an access point to the telephone network (paragraph 26), and once the voice data is in packet format, it is then in the format which is designed to use with a packet switched network, such as described by Turner, and thus that modulating and demodulating of the RF signals is performed by said gateway.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-5, 7-11, 13-16, 18-22, 24-28, 30-33, 35-39, 41-45, 47-50, 52, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Son et al. (US

2002/0026645 A1, of record) [Son] in view of Ferguson (5,844,594, of record), Graber et al. (US 2002/0116722 A1, of record) [Graber], Turner (4,901,309, of record), and Read et a. (US 2002/0162116 A1, of record) [Read].

Regarding claims 1, 18, and 35, Son discloses a system, method, and corresponding computer program (fig. 1, software 152, paragraph 26, lines 7-9) on a computer readable medium (fig. 1, RAM 150), for providing to system users IP centric (paragraph 33) multi-channel, time-shifted and real time telecommunication services (paragraph 21, lines 1-7) including television on demand and video on demand (paragraph 22, lines 6-9), the system, method, and corresponding computer program comprising:

a media content creator subsystem (fig. 1, packet processor 144, paragraph 28, lines 6-14) for receiving video signal streams and compressing the digital data into IP based packets (paragraph 28, lines 14-21) for transmission over a broadband network (paragraph 21, lines 4-7);

a storage means (fig. 1, storage medium 148, paragraph 26, lines 11-17) for storing IP based packets and permitting stored IP based packet to be retrieved therefrom (paragraph 36);

a second plurality of distributed media streaming engines (paragraph 49. stream caching servers $102_{1..p}$) forming a media streaming subsystem (fig. 1, stream caching server 102) for receiving the streams of encoded digital data (paragraph 23, lines 5-13), and storing the IP based packets in the storage means (which is within said server, as shown in fig. 1), said subsystem being

responsive to a user request (paragraph 27, lines 1-7 and paragraph 49) and operative to forward a selected stream of IP based packets from said content creator subsystem (paragraph 32, lines 1-7);

and a content management subsystem (140) (paragraph 27, lines 1-6) for controlling user access to the system and providing user account management (paragraph 39, lines 14-18).

Son fails to disclose:

- A plurality of media content creation units within the media content creator subsystem.
- The media content creator subsystem receives multiple video signal streams, each having one of several industry standard communication formats, and for converting the incoming video signal streams into digital data.
- An output subsystem for delivering video, voice, and data unified services receiving the selected stream of IP based packets or the retrieved IP packets and having routing engine modules (REM) for packet forwarding, packet engine modules (PEM) for packetizing voice and circuit mode signals and switch engine modules operating in level 2 and level 3 connected to the REM and PEM for non-blocking traffic direction.

In an analogous art, Ferguson teaches using multiple processors in a computer system for processing large loads of data (distribution controller 50 is

composed of multiple processors working in parallel, col. 4, lines 59-69). The benefit of using multiple processors in a computer system is increased processing power and faster processing of large amounts of data (col. 1, lines 42-64).

It would have been obvious at the time to a person of ordinary skill in the art to modify the system, method, and corresponding computer program disclosed by Son to include multiple processors in the media content creator subsystem, as taught by Ferguson, resulting in the media content creator subsystem containing a plurality of media content creation units, for the benefit of increased processing power and faster creation of received media content.

Son and Ferguson fail to disclose:

- The media content creator subsystem receives multiple video signal streams, each having one of several industry standard communication formats, and for converting the incoming video signal streams into digital data.
- An output subsystem for delivering video, voice, and data unified services receiving the selected stream of IP based packets or the retrieved IP packets and having routing engine modules (REM) for packet forwarding, packet engine modules (PEM) for packetizing voice and circuit mode signals and switch engine modules operating in level 2 and level 3 connected to the REM and PEM for non-blocking traffic direction.

In, an analogous art, Graber discloses a media content creator (fig. 2, digitizer 152) for receiving multiple video streams (video signals shown in fig. 2) each one having one of several industry standard communication formats (paragraph 31, lines 1-4), and for converting the incoming video signal streams into digital data (paragraph 32, lines 1-2) in order to enable users to selectively view several different types of video signals in digital format, a more accurate, robust, and portable signal format.

It would have been obvious at the time to a person of ordinary skill in the art to modify the system, method, and corresponding computer program disclosed by Son and Ferguson to include in the media content creator subsystem the ability to receive multiple video streams each one having one of several industry standard communication formats, and convert the incoming video signal streams into digital data as taught by Graber. The reason for doing so would be to enable users to selectively view several different types of video signals in digital format, a more accurate, robust, and portable signal format.

Son, Ferguson, and Graber fail to disclose:

- An output subsystem for delivering video, voice, and data unified services receiving the selected stream of IP based packets or the retrieved IP packets and having routing engine modules (REM) for packet forwarding, packet engine modules (PEM) for packetizing voice and circuit mode signals and switch engine modules (SEM)

operating in level 2 and level 3 connected to the REM and PEM for non-blocking traffic direction.

In an analogous art, Turner teaches a packet switching network (fig. 1, col. 2, lines 45-65) which comprises an output subsystem (packet switch array, fig. 1, PS 12, 14, 16, 18, 20) for delivering video, voice, and data unified services (col. 3, lines 7-12) that receives packets and includes routing engine modules (fig. 6, BGTs) for packet forwarding (a layer 3 function, col. 9, lines 39-51) which are connected to switch engine modules (the connection processor within each packet processor that performs link level [level 2] switching, col. 3, lines 42-55) for non-blocking traffic direction (col. 8, lines 6-34), providing an output network for distributing packet data that is diverse and modular (col. 18, lines 26-41).

It would have been obvious at the time to a person of ordinary skill in the art to modify the system, method, and corresponding computer program of Son, Ferguson, and Graber to include an output subsystem for delivering video, voice, and data unified services receiving the selected stream of IP based packets or the retrieved IP packets and having routing engine modules (REM) for packet forwarding and switch engine modules (SEM) for non-blocking traffic direction operating in level 2 and level 3, as taught by Turner, for the benefit of providing an output network for distributing the packet data that is diverse and modular, wherein modular systems are easier to design and implement, are more economical, and are expandable.

Son, Ferguson, Graber, and Turner fail to disclose the output subsystem includes packet engine modules for packetizing voice and circuit mode signals.

In an analogous art, Read teaches a packet engine module (fig. 1, gateway 122) which packetizes voice and circuit mode signals (gateway 122 converts the circuit mode signals received from the PTSN which are destined for the user and converts them into packets, these circuit mode signals include voice [Voice over IP], paragraph 30 and paragraphs 23 and 26), for the benefit of eliminating the need for a telephone service provider (paragraph 31, lines 1-4).

It would have been obvious at the time to a person of ordinary skill in the art to modify the system, method, and corresponding computer program disclosed by Son, Ferguson, Graber, and Turner to include packet engine modules which packetize voice and circuit mode signals, as taught by Read, for the benefit of eliminating the need for a telephone service provider to communicate circuit mode signals, such as telephone calls.

Regarding claims 2, 19, and 36, Son, Ferguson, Graber, Turner, and Read disclose the system, method, and corresponding computer program of claims 1, 18, and 35, which is further characterized in that the content management subsystem provides user authentication, user billing, and management of transmission channel bandwidth [availability and permissions for requested content] (Son paragraph 39, lines 14-18).

Regarding claims 3-5, 20-22, and 37-39, Son, Ferguson, Graber, Turner, and Read disclose the system, method, and corresponding computer program of claims 1, 18, and 35, which is further characterized in that the digital data can be encoded in various formats (Son paragraph 36, lines 3-6), such as MPEG-1, MPEG-2, and MPEG-4.

Regarding claims 7, 24, and 41, Son, Ferguson, Graber, Turner, and Read disclose the system, method, and corresponding computer program of claims 1, 18, and 35, which is further characterized in that the source of the incoming video signal streams is live camera (Graber paragraph 19, lines 1-5).

Regarding claims 14, 16, 31, 33, 48, and 50, Son, Ferguson, Graber, Turner, and Read disclose the system, method, and corresponding computer program of claims 1, 18, and 35, which is further characterized in that the source of incoming video signal streams are in S-video and RGB format (Graber paragraph 31, lines 1-4 and paragraph 29, lines 14-19).

Regarding claims 15, 32, and 49, Son, Ferguson, Graber, Turner, and Read disclose the system, method, and corresponding computer program of claims 1, 18, and 35, which is characterized in that the incoming video signal streams are in NTSC/PAL composite TV signal format (see NTSC in Graber paragraph 31, lines 1-4).

Regarding claims 8, 25, and 42, Son discloses a system, method, and corresponding computer program (fig. 1, software 152, paragraph 26, lines 7-9) on a computer readable medium (fig. 1, RAM 150), for providing to system users IP centric (paragraph 33) multi-channel, time-shifted and real time telecommunication services (paragraph 21, lines 1-7) including television on demand and video on demand (paragraph 22, lines 6-9), the system, method, and corresponding computer program comprising:

a media content creator subsystem (144) (paragraph 28, lines 6-14) for receiving video signal streams and preparing them (paragraph 28, lines 14-21) for transmission over a broadband network (paragraph 21, lines 4-7);

a storage means (148) (paragraph 26, lines 11-17) for storing IP based packets and permitting stored IP based packet to be retrieved therefrom (paragraph 36);

a plurality of distributed media streaming engines (fig. 4, individual stream caching servers $102_{1..p}$ for each service, each working with processor 144, paragraph 49) for receiving encoded digital data (paragraph 28, lines 10-17), wherein encoded digital data is packetized by the media streaming engines (paragraph 23, lines 5-13) and stored in the storage means (paragraph 36), each of said media streaming engines being responsive to a user request (paragraph 27, lines 1-7 and paragraph 49) and operative to forward a selected stream of IP based packets from said content creator subsystem (post-processing, paragraph

32, lines 1-7) to a distribution network (through switch 142, shown in Figure 1, paragraph 25, lines 1-6);

and a content management subsystem (140) (paragraph 27, lines 1-6) for controlling user access to the system and providing user account management (paragraph 39, lines 14-18).

Son fails to disclose:

- a plurality of media content creation units within the media content creator subsystem.
- the media content creator subsystem to receives multiple video signal streams, each having one of several industry standard communication formats, and for converting the incoming video signal streams into digital data.
- An output subsystem for delivering video, voice, and data unified services receiving the selected stream of IP based packets or the retrieved IP packets and having routing engine modules (REM) for packet forwarding, packet engine modules (PEM) for packetizing voice and circuit mode signals and switch engine modules operating in level 2 and level 3 connected to the REM and PEM for non-blocking traffic direction.

In an analogous art, Ferguson teaches using multiple processors in a computer system for processing large loads of data (distribution controller 50 is composed of multiple processors working in parallel, col. 4, lines 59-69). The

benefit of using multiple processors in a computer system is increased processing power and faster processing of large amounts of data (col. 1, lines 42-64).

It would have been obvious at the time to a person of ordinary skill in the art to modify the system, method, and corresponding computer program disclosed by Son to include multiple processors in the media content creator subsystem, as taught by Ferguson, resulting in the media content creator subsystem containing a plurality of media content creation units, for the benefit of increased processing power and faster creation of received media content.

Son and Ferguson fail to disclose:

- the media content creator subsystem to receives multiple video signal streams, each having one of several industry standard communication formats, and for converting the incoming video signal streams into digital data.
- An output subsystem for delivering video, voice, and data unified services receiving the selected stream of IP based packets or the retrieved IP packets and having routing engine modules (REM) for packet forwarding, packet engine modules (PEM) for packetizing voice and circuit mode signals and switch engine modules operating in level 2 and level 3 connected to the REM and PEM for non-blocking traffic direction.

In an analogous art, Graber discloses a media content creator (fig. 2, digitizer 152) for receiving multiple video streams (video signals shown in fig. 2) each one having one of several industry standard communication formats (paragraph 31, lines 1-4), and for converting the incoming video signal streams into digital data (paragraph 32, lines 1-2) in order to enable users to selectively view several different types of video signals in digital format, a more accurate, robust, and portable signal format.

It would have been obvious at the time to a person of ordinary skill in the art to modify the system, method, and corresponding computer program disclosed by Son and Ferguson to include in the media content creator subsystem the ability to receive multiple video streams each one having one of several industry standard communication formats, and convert the incoming video signal streams into digital data as taught by Graber. The reason for doing so would be to enable users to selectively view several different types of video signals in digital format, a more accurate, robust, and portable signal format.

Son, Ferguson, and Graber fail to disclose:

- An output subsystem for delivering video, voice, and data unified services receiving the selected stream of IP based packets or the retrieved IP packets and having routing engine modules (REM) for packet forwarding, packet engine modules (PEM) for packetizing voice and circuit mode signals and switch engine modules

operating in level 2 and level 3 connected to the REM and PEM for non-blocking traffic direction.

In an analogous art, Turner teaches a packet switching network (fig. 1, col. 2, lines 45-65) which comprises an output subsystem (packet switch array, fig. 1, PS 12, 14, 16, 18, 20) for delivering video, voice, and data unified services (col. 3, lines 7-12) that receives packets and includes routing engine modules (fig. 6, BGTs) for packet forwarding (a layer 3 function, col. 9, lines 39-51) which are connected to switch engine modules (the connection processor within each packet processor that performs link level [level 2] switching, col. 3, lines 42-55) for non-blocking traffic direction (col. 8, lines 6-34), providing an output network for distributing packet data that is diverse and modular (col. 18, lines 26-41).

It would have been obvious at the time to a person of ordinary skill in the art to modify the system, method, and corresponding computer program of Son, Ferguson, and Graber to include an output subsystem for delivering video, voice, and data unified services receiving the selected stream of IP based packets or the retrieved IP packets and having routing engine modules (REM) for packet forwarding and switch engine modules (SEM) for non-blocking traffic direction operating in level 2 and level 3, as taught by Turner, for the benefit of providing an output network for distributing the packet data that is diverse and modular, wherein modular systems are easier to design and implement, are more economical, and are expandable.

Son, Ferguson, Graber, and Turner fail to disclose the output subsystem includes packet engine modules for packetizing voice and circuit mode signals.

In an analogous art, Read teaches a packet engine module (fig. 1, gateway 122) which packetizes voice and circuit mode signals (gateway 122 converts the circuit mode signals received from the PTSN which are destined for the user and converts them into packets, these circuit mode signals include voice [Voice over IP], paragraph 30 and paragraphs 23 and 26), for the benefit of eliminating the need for a telephone service provider (paragraph 31, lines 1-4).

It would have been obvious at the time to a person of ordinary skill in the art to modify the system, method, and corresponding computer program disclosed by Son, Ferguson, Graber, and Turner to include packet engine modules which packetize voice and circuit mode signals, as taught by Read, for the benefit of eliminating the need for a telephone service provider to communicate circuit mode signals, such as telephone calls.

Regarding claims 9, 26, and 43, Son, Ferguson, Graber, Turner, and Read disclose the system, method, and corresponding computer program of claims 1, 18, and 35, and is further characterized in that the media streaming subsystem provides the user access to time-shifted television programming in an order selected by the user (Son paragraph 22, lines 6-11).

Regarding claims 10, 27, and 44, Son, Ferguson, Graber, Turner, and Read disclose the system, method, and corresponding computer program of claims 1, 18, and 35, which is further characterized in that the media streaming subsystem may simultaneously provide multiple streams of IP based packets each encoded based on a different standard (Son paragraph 32, lines 1-7 and paragraph 36, lines 3-7)

Regarding claims 11, 28, and 45, Son, Ferguson, Graber, and Turner, and Read disclose the system, method, and corresponding computer program of claims 1, 18, and 35, which is further characterized in that the system is scalable (Son paragraph 10) through selection of the plurality of media content creation units and the plurality of media streaming engines. The amount of services available is scalable, as shown by the multiple different streaming engines (Son, fig. 4, stream caching servers $102_{1..p}$ which work with processor 144), as adding or removing these servers would add or remove available services. The amount of data that can be processed at any give time is scalable through the addition or removal of the processors which make up the media content creation units (parallel processing, as taught by Ferguson, increases the processing power of any system through the addition of additional processors).

Regarding claims 13, 30, and 47, Son, Ferguson, Graber, Turner, and Read disclose the system, method, and corresponding computer program of

claims 1, 18, and 35, which is further characterized in that the system is connected for providing services to both wired [cable, DSL] and wireless [satellite] networks (Son paragraph 21, lines 1-7).

Regarding claim 52, Son disclose a method for receiving IP centric (paragraph 33) multi-channel, time-shifted and real time telecommunication services (paragraph 21, lines 1-7) including television on demand, video on demand, and karaoke on demand [any content that may be streamed](paragraph 22, lines 6-9), said method comprising, transmitting a user selection (paragraph 27, lines 1-6) of a television program to a remote system, wherein said system encodes digital data into IP based packets based on multiple compression standards (paragraph 28, lines 14-21), wherein said IP packets may be ready for transmission over a network (paragraph 28, lines 21-24), stores the IP based packets in an indexed accessible database (148) (paragraph 26, lines 14-17), and provides through a plurality of distributed media streaming engines (fig. 4, multiple servers provide multiple services) streams of IP based packets to the user upon request (paragraph 39, lines 19-22) over a broadband communication channel (paragraph 23, lines 10-15), and receiving streams of IP based packets representing the user selected television program.

Son fails to disclose:

- a plurality of media content creation units.

- the remote system receives multiple format incoming video signals from multiple sources and converts the incoming video signals into digital data.
- voice and unified data services are entrained using routing engine modules and packet engine modules with switch engine modules for non-blocking routing operating in level 2 and level 3

In an analogous art, Ferguson teaches using multiple processors in a computer system for processing large loads of data (distribution controller 50 is composed of multiple processors working in parallel, col. 4, lines 59-69). The benefit of using multiple processors in a computer system is increased processing power and faster processing of large amounts of data (col. 1, lines 42-64).

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Son to include multiple processors, as taught by Ferguson, resulting in a plurality of media content creation units which receive the user selection, for the benefit of increased processing power and faster creation of received media content.

Son and Ferguson fail to disclose:

- the remote system receives multiple format incoming video signals from multiple sources and converts the incoming video signals into digital data.

- voice and unified data services are entrained using routing engine modules and packet engine modules with switch engine modules for non-blocking routing operating in level 2 and level 3

In an analogous art, Graber discloses a media content creator (fig. 2, digitizer 152) for receiving multiple video streams (video signals shown in fig. 2) each one having one of several industry standard communication formats (paragraph 31, lines 1-4), and for converting the incoming video signal streams into digital data (paragraph 32, lines 1-2) in order to enable users to selectively view several different types of video signals in digital format, a more accurate, robust, and portable signal format.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Son and Ferguson to include a system which could receive multiple video streams each one having one of several industry standard communication formats, and convert the incoming video signal streams into digital data as taught by Graber. The reason for doing so would to enable users to selectively view several different types of video signals in digital format, a more accurate, robust, and portable signal format.

Son and Ferguson fail to disclose:

- voice and unified data services are entrained using routing engine modules and packet engine modules with switch engine modules for non-blocking routing operating in level 2 and level 3

In an analogous art, Turner teaches a packet switching network (fig. 1, col. 2, lines 45-65) which comprises an output subsystem (packet switch array, fig. 1, PS 12, 14, 16, 18, 20) for delivering video, voice, and data unified services (col. 3, lines 7-12) that receives packets and includes routing engine modules (fig. 6, BGTs) for packet forwarding (a layer 3 function, col. 9, lines 39-51) which are connected to switch engine modules (the connection processor within each packet processor that performs link level [level 2] switching, col. 3, lines 42-55) for non-blocking traffic direction (col. 8, lines 6-34), providing an output network for distributing packet data that is diverse and modular (col. 18, lines 26-41).

It would have been obvious at the time to a person of ordinary skill in the art to modify the system, method, and corresponding computer program of Son, Ferguson, and Graber to include an output subsystem for delivering video, voice, and data unified services receiving the selected stream of IP based packets or the retrieved IP packets and having routing engine modules (REM) for packet forwarding and switch engine modules (SEM) for non-blocking traffic direction operating in level 2 and level 3, as taught by Turner, for the benefit of providing an output network for distributing the packet data that is diverse and modular, wherein modular systems are easier to design and implement, are more economical, and are expandable.

Son, Ferguson, Graber, and Turner fail to include packet engine modules.

In an analogous art, Read teaches a packet engine module (fig. 1, gateway 122) which packetizes voice and circuit mode signals (gateway 122

converts the circuit mode signals received from the PTSN which are destined for the user and converts them into packets, these circuit mode signals include voice [Voice over IP], paragraph 30 and paragraphs 23 and 26), for the benefit of eliminating the need for a telephone service provider (paragraph 31, lines 1-4).

It would have been obvious at the time to a person of ordinary skill in the art to modify the system, method, and corresponding computer program disclosed by Son, Ferguson, Graber, and Turner to include packet engine modules, as taught by Read, for the benefit of eliminating the need for a telephone service provider to communicate circuit mode signals, such as telephone calls.

Regarding claim 53, Son disclose a method of providing IP centric (paragraph 33), multi-channel time-shifted and real time telecommunication services (paragraph 21, lines 1-7) including live television, television on demand, video on demand, and karaoke on demand [any content that may be streamed](paragraph 22, lines 6-9), said method comprising, converting multiple format video signal streams into IP based packet (paragraph 28, lines 10-21) ready for transmission over broadband networks (paragraph 28, lines 21-24), receiving, storing and forwarding the IP based packets through a plurality of media streaming units (fig. 4, multiple services are provided from multiple streaming servers 102), based on a request from a user (paragraph 39, lines 19-22), each said IP based packet including data representing the converted and

encoded content of a user requested program file, providing user account management which includes controlling user access to the entire system (paragraph 39, lines 14-18), and providing and output system for transmitting the user selected, IP based packets to the user over a broadband network (paragraph 23, lines 10-17).

Son fails to disclose:

- a plurality of media content creation units.
- providing a user interface means for a user to select time-shifted telecommunication services.
- the output system switches in level 2 and level 3
- the IP based packets include voice and unified data services.

In an analogous art, Ferguson teaches using multiple processors in a computer system for processing large loads of data (distribution controller 50 is composed of multiple processors working in parallel, col. 4, lines 59-69). The benefit of using multiple processors in a computer system is increased processing power and faster processing of large amounts of data (col. 1, lines 42-64).

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Son to include multiple processors, as taught by Ferguson, resulting in a plurality of media content creation units which convert the video signal streams, for the benefit of increased processing power and faster creation of received media content.

Son and Ferguson fail to disclose:

- providing a user interface means for a user to select time-shifted telecommunication services.
- the output system switches in level 2 and level 3
- the IP based packets include voice and unified data services.

Graber disclose providing a user interface means for a user to select video streams for display (paragraph 20) to provide the user a means for easily selecting a video stream.

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclose by Son and Ferguson to include a user interface means to select the time-shifted telecommunication service video stream as taught by Graber for the advantage of providing the user a means for easily requesting said video stream from the user end.

Son, Ferguson, and Graber fail to disclose:

- the output system switches in level 2 and level 3
- the IP based packets include voice and unified data services.

In an analogous art, Turner teaches a packet switching network (fig. 1, col. 2, lines 45-65) which comprises an output subsystem (packet switch array, fig. 1, PS 12, 14, 16, 18, 20) for delivering video, voice, and data unified services (col. 3, lines 7-12) that receives packets and includes routing engine modules (fig. 6, BGTs) for packet forwarding (a layer 3 function, col. 9, lines 39-51) which are connected to switch engine modules (the connection processor within each

packet processor that performs link level [level 2] switching, col. 3, lines 42-55) for non-blocking traffic direction (col. 8, lines 6-34), providing an output network for distributing packet data that is diverse and modular (col. 18, lines 26-41).

It would have been obvious at the time to a person of ordinary skill in the art to modify the method of Son, Ferguson, and Graber to include an output system that switches in level 2 and level 3, as taught by Turner, for the benefit of providing an output network for distributing the packet data that is diverse and modular, wherein modular systems are easier to design and implement, are more economical, and are expandable.

Son, Ferguson, Graber, and Turner fail to disclose the IP based packets include voice and unified data services.

In an analogous art, Read teaches including voice (Voice over IP) and unified data services (Internet data) as IP packets over a broadband network (paragraphs 26 and 27), increasing the services available to users of a broadband network (fig. 1, cable network 104).

It would have been obvious at the time to a person of ordinary skill in the art to modify the method disclosed by Son, Ferguson, Graber, and Turner to include voice and unified data services in the IP based packets, as taught by Read, for the benefit of increasing the services available to users to include digital telephony and Internet access.

10. Claims 6, 23, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Son, Ferguson, Graber, Turner, and Read as applied to claims 1, 18, and 35 above, and further in view of Dogan et al. (Electronics Letters, 27th May 1999, vol. 35 ° No. 11, of record) [Dogan].

Regarding claims 6, 23, and 40, Son, Ferguson, Graber, Turner, and Read disclose the system, method, and corresponding computer program of claims 1, 18, and 35, but fail to disclose the digital data to be encoded based on H.263.

Dogan teaches the H.263 standard is a well-known and popular video encoding standard which is optimized to run on standard circuit-switched fixed networks (Introduction, lines 1-3).

It would have been obvious at the time to modify the system, method, and corresponding computer program of Son, Ferguson, Graber, Turner, and Read to encode the digital data based on H.263, as taught by Dogan, for the advantage of using a standard optimized for circuit-switched fixed networks.

11. Claims 12, 29, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Son, Ferguson, Graber, Turner, and Read as applied to claims 1, 18, and 35 above, and further in view of Yamamoto (JP 09259082 A, of record).

Regarding claims 12, 29, and 46, Son, Ferguson, Graber, Turner, and Read disclose the system, method, and corresponding computer program of claims 1, 18, and 35, which is further characterized in that the output subsystem

provides for seamless integration of the multiple telecommunication services including television on demand and video on demand (Son, paragraph 22, lines 6-9), and Internet services [data stream from a service provider](Son, paragraph 28, lines 10-13).

Son, Ferguson, Graber, Turner, and Read fail to disclose the telecommunication services include karaoke on demand.

Yamamoto discloses a multiple service cable TV system which includes karaoke on demand. See title.

It would have been obvious at the time to a person of ordinary skill in the art to modify the system, method, and corresponding computer program of Son, Ferguson, Graber, Turner, and Read to include in the telecommunication services karaoke on demand as taught by Yamamoto, for the benefit of providing a variety of services to users.

12. Claims 17, 34, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Son, Ferguson, Graber, Turner, and Read as applied to claims 1, 18, and 35 above, and further in view of St. Arnaud et al. (4,586,081, of record).

Regarding claims 17, 34, and 51, Son, Ferguson, Graber, Turner, and Read disclose the system, method, and corresponding computer program of claims 1, 18, and 35, but fail to disclose the incoming audio streams are in two sound tracks.

St. Arnaud et al. discloses transmitting audio in two sound tracks, (col. 4, lines 1-3), providing stereo sound to a CATV network.

It would have been obvious at the time to a person of ordinary skill in the art to modify the system, method, and corresponding computer program of Son, Ferguson, Graber, Turner, and Read to receive incoming audio signal streams in two sound tracks, as taught by St. Arnaud et al. for the advantage of receiving stereo sound to distribute over the network.

Conclusion

13. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

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Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dominic D. Saltarelli whose telephone number is (571) 272-7302. The examiner can normally be reached on Monday - Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on (571) 272-7294. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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